IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Rule 53(b) Divisional Application of:

Yukinori MATSUMOTO et al.

Divisional of S.N. **09/254,127 filed 11/1/99**   Group Art Unit: **TBA**

Filed: **November 28, 2001**   Examiner: **TBA**

For: **TEXTURE INFORMATION ASSIGNMENT METHOD, OBJECT EXTRACTION METHOD, THREE-DIMENSIONAL MODEL GENERATING METHOD, AND APPARATUS THEREOF**

PRELIMINARY AMENDMENT

Commissioner for Patents   Date: **November 28, 2001**
Washington, D.C. 20231

Sir:

Prior to the calculation of the filing fees and consideration of the above divisional application, please amend the application as follows:

IN THE SPECIFICATION:

Please replace the paragraph on page 27, starting at line 23, with the following:

By the difference processing between object images A1-An and a background image, silhouette images B1-Bn with only the cut out of the object of interest are generated.

IN THE CLAIMS:

Please cancel claims 1-42 and 82-94, without prejudice or disclaimer.

Please amend claims 45-49, 52-56, 59, 60, 62 and 63 as follows:

45. (Amended) The object extraction apparatus according to claim 43, wherein said extraction means identifies and extracts the object portion in said object image by a threshold process for information of each said pixel consolidated each for said region.

46. (Amended) The object extraction apparatus according to claims 43, wherein said information of each pixel in said object image is difference information obtained by a difference process between a background image obtained by shooting only a background of said object of interest and said object image.

47. (Amended) The object extraction apparatus according to claim 43, wherein said extraction means comprises

difference processing means for carrying out a difference process between a background image obtained by shooting only a background of said object of interest and said object image;

mean value obtaining means for obtaining a mean value of absolute values of difference obtained by said difference process in said each region, and

threshold value processing means for comparing said mean value of absolute values of difference in said region with a predetermined value to extract a region having said mean value of at least said predetermined value as the object portion.

48. (Amended) The object extraction apparatus according to claim 43, wherein said extraction means comprises

mean value calculating means for calculating a mean value of pixels in each region of said object image,

difference processing means for carrying out a difference process between a mean value of pixels in each region of said object image and a mean value of pixels in a region of said background image corresponding to said region of said object image, and

threshold value processing means for comparing an absolute value of difference obtained by said difference processing means with a predetermined value to extract a region having said absolute value of difference of at least said predetermined value as the object portion.

49. (Amended) The object extraction apparatus according to claim 43, wherein said information of each pixel in said object image is depth information.

52. (Amended) The object extraction method according to claim 50, wherein said extraction step identifies and extracts the object portion in said object image by a threshold process for information of each said pixel consolidated each for said region.

53. (Amended) The object extraction method according to claim 50, wherein said information of said each pixel in said object image is difference information obtained by a difference

process between a background image obtained by shooting only a background of said object of interest and said object image.

54. (Amended) The object extraction method according to claim 50, wherein said extraction step comprises

a difference processing step of carrying out a difference process between a background image obtained by shooting only a background of said object of interest and said object image,

a mean value obtaining step of obtaining a mean value of absolute values of difference obtained by said difference process in said each region, and

a threshold value processing step of comparing said mean value of absolute values of difference in said region with a predetermined value to extract a region having said mean value of at least said predetermined value as the object portion.

55. (Amended) The object extraction method according to claim 50, wherein said extraction step comprises

a mean value calculating step of calculating a mean value of pixels in each region of said object image,

a difference processing step of carrying out a difference process between a mean value of pixels in each region of said object image and a mean value of pixels in a region of said background image corresponding to said region of said object image, and

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a threshold value processing step of comparing an absolute value of difference

obtained by said difference processing with a predetermined value to extract a region having said

absolute value of difference of at least said predetermined value as the object portion.

56. (Amended) The object extraction method according to claim 50, wherein said information

of each pixel in said object image is depth information.

59. (Amended) The medium storing the object extraction program according to claim 57,

wherein said extraction step identifies and extracts the object portion in said object image by a

threshold value process for information of said each pixel consolidated each for said region.

60. (Amended) The medium storing the object extraction program according to claim 57,

wherein said information of each pixel in said object image is difference information obtained by

a difference process between a background image obtained by shooting only a background of said

object of interest and said object image.

62. (Amended) The medium storing the object extraction program according to claim 57,

wherein said extraction step comprises

a mean value calculating step of calculating a mean value of pixels in each region of

said object image,

a difference processing step of carrying out a difference process between a mean

value of pixels in each region of said object image and a mean value of pixels in a region of said

background image corresponding to said region of said object image, and

a threshold value processing step of comparing an absolute value of difference

obtained by said difference processing step with a predetermined value to extract a region having

said difference absolute value of difference of at least said predetermined value as the object portion.

63. (Amended) The medium storing the object extraction program according to claim 57,

wherein said information of each pixel in said object image is depth information.

REMARKS

Claims 45-49, 52-56, 59, 60, 62 and 63 have been amended, while claims 1-42 and 82-94,

have been cancelled without prejudice or disclaimer.

The specification has been amended in order to correct informalities therein.

A marked-up version showing the changes to the specification made by the present

amendment is attached hereto as "Version With Markings to Show Changes Made".

If for any reason, the Examiner has any questions, it is respectfully requested that the

Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone

number to arrange for a telephone conference in order to help expedite the disposition of this

application.

A prompt and favorable action on the merits is earnestly solicited.

In the event this paper is not timely filed, the applicants hereby petition for an appropriate extension of time. The fee for this extension may be charged to our Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

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Attachment: Version with markings to show changes made

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<u>**VERSION WITH MARKINGS TO SHOW CHANGES MADE**</u>
Divisional of Serial No. 09/254,127

IN THE SPECIFICATION:

Please replace the paragraph on page 27, starting at line 23, with the following:

By the difference processing between object images [A1-Aa] <u>A1-An</u> and a background

image, silhouette images B1-Bn with only the cut out of the object of interest are generated.

IN THE CLAIMS:

Please cancel claims 1-42 and 82-94, without prejudice or disclaimer.

Please amend claims 45-49, 52-56, 59, 60, 62 and 63 as follows:

45. (Amended) The object extraction apparatus according to claim 43 [or 44], wherein

said extraction means identifies and extracts the object portion in said object image by a

threshold process for information of each said pixel consolidated each for said region.

46. (Amended) The object extraction apparatus according to claim 43[=45], wherein said

information of each pixel in said object image is difference information obtained by a difference

process between a background image obtained by shooting only a background of said object of

interest and said object image.

47. (Amended) The object extraction apparatus according to claim 43[=45], wherein said extraction means comprises

difference processing means for carrying out a difference process between a background image obtained by shooting only a background of said object of interest and said object image;

mean value obtaining means for obtaining a mean value of absolute values of difference obtained by said difference process in said each region, and

threshold value processing means for comparing said mean value of absolute values of difference in said region with a predetermined value to extract a region having said mean value of at least said predetermined value as the object portion.

48. (Amended) The object extraction apparatus according to claim 43[=45], wherein said extraction means comprises

mean value calculating means for calculating a mean value of pixels in each region of said object image,

difference processing means for carrying out a difference process between a mean value of pixels in each region of said object image and a mean value of pixels in a region of said background image corresponding to said region of said object image, and

threshold value processing means for comparing an absolute value of difference obtained by said difference processing means with a predetermined value to extract a region having said absolute value of difference of at least said predetermined value as the object portion.

49. (Amended) The object extraction apparatus according to claim 43[=45], wherein said information of each pixel in said object image is depth information.

52. (Amended) The object extraction method according to claim 50 [or 51], wherein said extraction step identifies and extracts the object portion in said object image by a threshold process for information of each said pixel consolidated each for said region.

53. (Amended) The object extraction method according to claim 50[=52], wherein said information of said each pixel in said object image is difference information obtained by a difference process between a background image obtained by shooting only a background of said object of interest and said object image.

54. (Amended) The object extraction method according to claim 50[=52], wherein said extraction step comprises

a difference processing step of carrying out a difference process between a background image obtained by shooting only a background of said object of interest and said object image,

a mean value obtaining step of obtaining a mean value of absolute values of difference obtained by said difference process in said each region, and

a threshold value processing step of comparing said mean value of absolute values

of difference in said region with a predetermined value to extract a region having said mean

value of at least said predetermined value as the object portion.

55. (Amended) The object extraction method according to claim 50[=52], wherein said

extraction step comprises

a mean value calculating step of calculating a mean value of pixels in each region

of said object image,

a difference processing step of carrying out a difference process between a mean

value of pixels in each region of said object image and a mean value of pixels in a region of said

background image corresponding to said region of said object image, and

a threshold value processing step of comparing an absolute value of difference

obtained by said difference processing with a predetermined value to extract a region having said

absolute value of difference of at least said predetermined value as the object portion.

56. (Amended) The object extraction method according to claim 50[=52], wherein said

information of each pixel in said object image is depth information.

59. (Amended) The medium storing the object extraction program according to claim 57

[or 58], wherein said extraction step identifies and extracts the object portion in said object image

by a threshold value process for information of said each pixel consolidated each for said region.

60. (Amended) The medium storing the object extraction program according to claim

57[=59], wherein said information of each pixel in said object image is difference information

obtained by a difference process between a background image obtained by shooting only a

background of said object of interest and said object image.

62. (Amended) The medium storing the object extraction program according to claim

57[=59], wherein said extraction step comprises

a mean value calculating step of calculating a mean value of pixels in each region

of said object image,

a difference processing step of carrying out a difference process between a mean

value of pixels in each region of said object image and a mean value of pixels in a region of said

background image corresponding to said region of said object image, and

a threshold value processing step of comparing an absolute value of difference

obtained by said difference processing step with a predetermined value to extract a region having

said difference absolute value of difference of at least said predetermined value as the object

portion.

63. (Amended) The medium storing the object extraction program according to claim

57[=59], wherein said information of each pixel in said object image is depth information.